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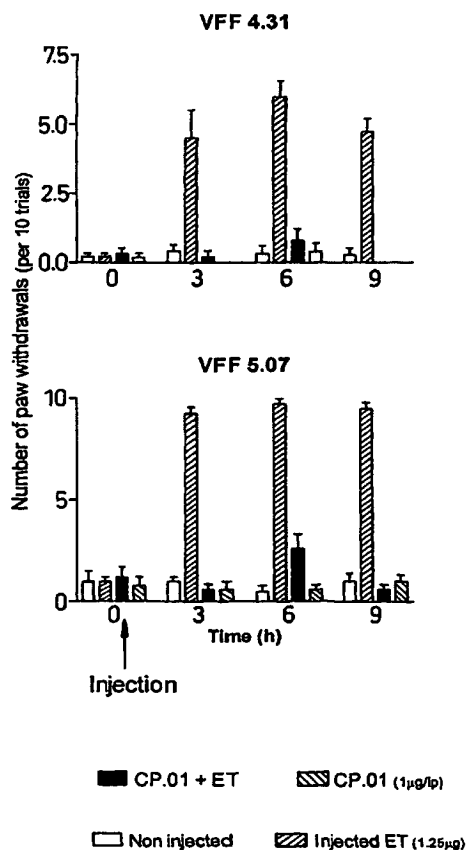
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- (71) Applicant (*for all designated States except US*): **HELPERBY THERAPEUTICS LIMITED** [GB/GB]; 135 Gloucester Road, London SW7 4TH (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **COATES, Anthony, Robert, Milnes** [GB/GB]; Department of Medical Microbiology, St. George's Hospital Medical School, Cranmer Terrace, London SW17 0RE (GB).
- (74) Agent: **THOMAS, Philip**; Eric Potter Clarkson, Park View House, 58 The Ropewalk, Nottingham NG1 5DD (GB).
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(54) Title: PAIN RELIEF AGENTS



(57) Abstract: The present invention concerns the use of a heat shock polypeptide and/or an encoding nucleic acid sequence in the manufacture of a medicament for use in the relief of pain. In particular the invention concerns the use of chaperonin. The invention further provides methods of relieving pain using medicaments containing the heat shock polypeptides.



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:

29 July 2004

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

Internat. Application No  
PCT/GB 03/04774

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K38/16 A61K48/00 A61P25/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ, BIOSIS, MEDLINE, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/40037 A (ST GEORGE S ENTPR LTD ;COATES ANTHONY ROBERT MILNES (GB)) 23 May 2002 (2002-05-23) claims; figure 1	1-28
A	B. HENDERSON ET AL.: "Molecular chaperones and disease." INFLAMMATION RESEARCH; vol. 45, no. 4, 1996, pages 155-158, XP008030411 the whole document	1-28



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 May 2004

Date of mailing of the international search report

18/05/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Ryckebosch, A

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/04774

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 26-28 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 1-28 (all in part)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-28 (all in part)

Present claims 1-28 (all in part) relate to the use of a compound defined by reference to a desirable characteristic or property, namely a heat shock polypeptide, a chaperonin heat shock polypeptide, a bacterium-derived heat shock polypeptide, a Mycobacterium-derived heat shock polypeptide, a Mycobacterium tuberculosis-derived heat shock polypeptide or their respective encoding nucleic acid sequences.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds MT cpn 60.1 (Fig. 1), MT cpn 60.2 (Fig. 2) and MT cpn 10 (Fig. 3) as defined in claims 6(i) and 7(i), the description page 4, line 25 to page 5, line 12 and the examples 2-4.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

Internat llication No  
PCT/GB 03/04774

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0240037	A	23-05-2002	
		AU 1511702 A	27-05-2002
		AU 1512302 A	27-05-2002
		AU 2381702 A	27-05-2002
		CA 2429894 A1	23-05-2002
		CA 2429897 A1	23-05-2002
		EP 1333840 A2	13-08-2003
		EP 1333841 A2	13-08-2003
		WO 0240517 A2	23-05-2002
		WO 0240037 A2	23-05-2002
		WO 0240038 A2	23-05-2002
		GB 2389852 A	24-12-2003
		GB 2390366 A	07-01-2004